

REMARKS

Claims 1, 3-5, 7, 9-12, 15-17 and 20-26 remain pending in the application. Claims 1, 3-5, 7, 9, 11, 17 and 20 are amended, and claims 2, 6, 8, 13, 14, 18 and 19 are cancelled.

Reconsideration of the rejection and allowance of the pending application in view of the following remarks are respectfully requested.

In the Final Office Action, the Examiner provisionally rejects claims 5-7, 10-13, 15, 17, 20 and 23 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 21, 23-27, 29-31 and 33 of U.S. Patent Application No. 10/567,572. Applicants wish to bring to the Examiner's attention that U.S. Patent No. 7,656,793 has issued from U.S. Patent Application No. 10/567,572.

Applicants' independent claim 5, as currently amended, recites the features "the second time slot is a slot for all of the transceiver/receivers in the radio communication system for transmitting the first acknowledgement state, the third time slot is a slot for all of the transceiver/receivers in the radio communication system for transmitting the second acknowledgement state, and each of the transceiver/receivers and the transceiver/transmitter monitor a transmission medium during time slots in which they are not transmitting to determine an overall acknowledgement state of the radio communication system". Applicants submit that these features are not recited in the claims of U.S. Patent No. 7,656,793, nor are they obvious. Independent claims 11 and 17 have also been similarly amended. With respect to claim 23, Applicants wish to point out that this claim depends from independent claim 21, which has not been rejected.

For at least these reasons, Applicants submit that claims 5-7, 10-13, 15, 17, 20 and 23 are patentably distinct from the claims of U.S. Patent No. 7,656,793, and request that the Examiner

withdraw the double patenting rejection.

In the Final Office Action, the Examiner rejects claims 2, 6, 13 and 18 under 35 U.S.C. §112, 2nd paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Applicants have cancelled these claims, merely to advance the prosecution of the present application. Accordingly, the cancellation of these claims should not be taken as an acquiescence to the propriety of the rejection.

In the Final Office Action, the Examiner rejects claims 1, 2 and 6 under 35 U.S.C. §103(a) as being unpatentable over Hottinen et al. (U.S. Patent Application Publication No. 2002/0105961) in view of Shloss et al. (U.S. Patent No. 5,307,349).

Applicants' claim 1, as currently amended, recites a communications method for use in a wireless network of devices which includes, *inter alia*, transmitting, from a first device, data in a first time slot to each of at least two receiving devices in the wireless network, and transmitting, from each of the receiving devices, either a first acknowledgement state in a second time slot after the first time slot, or a second acknowledgement state in a third time slot after the second time slot. The second time slot is a time slot for all devices in the wireless network for transmitting the first acknowledgement state, the third time slot is a slot for all devices in the wireless network for transmitting the second acknowledgement state, and each device in the wireless network monitors time slots during which they are not transmitting to determine an overall acknowledgement state of the wireless network.

Hottinen et al. discloses a transmit diversity system in which a mobile station (MS) 20 estimates a channel, and feeds back a channel estimate to a base station (BS) 10. See, e.g., paragraph [0007] of Hottinen et al. The MS 20 transmits first feedback information relating to the channel estimate in two successive time slots S1, and transmits second feedback information

relating to a rotated channel estimate in two following successive time slots S2. See, e.g., Fig. 4 and paragraph [0070] of Hottinen et al. Hottinen et al. discloses that this system allows a feedback resolution to be increased, while maintaining a low feedback signaling capacity. See, e.g., the abstract and paragraph [0071] of Hottinen et al.

Applicants respectfully submit that Hottinen's feedback information is not an acknowledgement state, as Hottinen's feedback information does not indicate whether data is received successfully or not. Rather, Hottinen's feedback information merely indicates a phase difference between antennas A1 and A2 of the BS 10. See, e.g., paragraphs [0007], [0014]-[0017], and [0070] of Hottinen et al.

Further, in the Final Office Action, the Examiner acknowledges that Hottinen's feedback information is not a positive acknowledge or a negative acknowledge. However, the Examiner asserts that this feature would have been obvious, in view of Shloss et al.

Shloss et al. discloses a TDMA protocol which permits two-way communication between a reader 112 and a vehicle transponder 114. See, e.g., col. 4, lines 5-12 of Shloss et al. Using this protocol, a slot TX/RX message 164 is used to communicate up to 512 message bits of data. At the conclusion of the message, the transponder receiving the message employs a positive acknowledge message 158 to signal a successful reception to the transmitting transponder, or a negative acknowledge message 158 to signal that the slot TX/RX message 164 was not received correctly. See, e.g., Figs. 3 and 4, and col. 9, lines 12-26 of Shloss et al.

Shloss et al. discloses that each message has a type field, and a message type subcode "01" indicates a positive acknowledge message (Ack), while a subcode "00" indicates a negative acknowledge message (Nack). See, e.g., Fig. 5 and col. 19, line 54 to col. 11, line 2 of Shloss et al.

Applicants submit that Shloss' system does not employ one time slot for all devices in the wireless network to transmit a first acknowledgement state, and another time slot for all devices in the wireless network to transmit a second acknowledgement state. Rather, in Shloss' system, a single time slot 158 is used to transmit positive and negative acknowledge messages.

Further, Applicants submit that Shloss' transponders do not monitor time slots during which they are not transmitting to determine an overall acknowledgement state of the wireless network. In this regard, Shloss et al. does not disclose or suggest that a transponder monitors the network for a negative acknowledgement in a third time slot when the slot TX/RX message 164 is successfully received by the transponder, or that the transponder monitors the network for a positive acknowledgement in a second time slot when the slot TX/RX message 164 is received with error by the transponder. Rather, Shloss's tranponders merely transmit a positive or negative acknowledge message in the slot 158. Shloss' transponders listen for a frame from a reader, randomly choose an activation slot, and then listen to a next frame to determine if they are granted a message slot and exchange one or more messages, including acknowledgement messages. See, e.g., col. 8, line 33 to col. 9, line 40 of Shloss et al.

For at least these reasons, Applicants submit that the combined teachings of Hottinen et al. and Shloss et al. do not render obvious the invention of independent claim 1, and request that the Examiner withdraw the rejections under 35 U.S.C. §103(a).

In the Final Office Action, the Examiner rejects claims 5, 11-14 and 17-19 under 35 U.S.C. §103(a) as being unpatentable over Farley et al. (U.S. Patent Application Publication No. 2002/0101839) in view of Shloss et al.

Applicants' independent claim 5, as currently amended, recites a radio communication system including a transceiver/transmitter and at least two transceiver/receivers. The

transceiver/transmitter transmits data in a first time slot to each of the transceiver/receivers, upon receipt of the data, each of the transceiver/receivers transmit either a first acknowledgement state in a second time slot, or a second acknowledgement state in a third time slot, the second time slot is a slot for all of the transceiver/receivers in the radio communication system for transmitting the first acknowledgement state, the third time slot is a slot for all of the transceiver/receivers in the radio communication system for transmitting the second acknowledgement state, and each of the transceiver/receivers and the transceiver/transmitter monitor a transmission medium during time slots in which they are not transmitting to determine an overall acknowledgement state of the radio communication system.

Applicant's independent claim 11, as currently amended, recites a transceiver/receiver for use in a radio communication system including at least one transceiver/transmitter and at least one other transceiver/receiver. Upon receiving a data packet in a first time slot from at least one of the transceiver/transmitters, the transceiver/receiver either transmits a first acknowledgement state in a second time slot, after the first time slot, or transmits a second acknowledgement state in a third time slot, after the second time slot. The second time slot is a slot for each of the transceiver/receivers in the radio communication system for transmitting the first acknowledgement state, the third time slot is a slot for each of the transceiver/receivers in the radio communication system for transmitting the second acknowledgement state, and the transceiver/receiver monitors a communication medium during a time slot in which the transceiver/receiver is not transmitting to determine an overall acknowledgement state of the radio communication system.

Applicants' independent claim 17, as currently amended, recites a transceiver/transmitter for use in a radio communication system including at least two transceiver/receivers. The

transceiver/transmitter transmits a data packet in a first time slot to each of the transceiver/receivers and receives from each of the transceiver/receivers a first acknowledgement state in a second time slot after the first time slot, or a second acknowledgement state in a third time slot after the second time slot. The second time slot is a slot for all transceiver/receivers in the radio communication system for transmitting the first acknowledgement state, the third time slot is a slot for all transceiver/receivers in the radio communication system for transmitting the second acknowledgement state, and the transceiver/transmitter monitors a communication medium during the second and third time slots to determine an overall acknowledgement state of the radio communication system.

Farley et al. discloses a system in which subscriber units 14 use a Joint Acknowledgement (JACK) channel 54 to carry messages to a base station 20 over a shared reverse link channel 50. See, e.g., Fig. 3 and paragraph [0078] of Farley et al. The JACK channel 54 includes multiple periodically repeating time-slots 310. See, e.g., paragraph [0084] of Farley et al. Farley et al. discloses that the timeslot 310 may include an ACK/NACK bit 341. See, e.g., paragraphs [0087] – [0090] of Farley et al.

Applicants submit that Farley's system does not employ one time slot for all subscriber units to transmit a first acknowledgement state, and another time slot for all subscriber units to transmit a second acknowledgment state. Rather, Farley's system use one timeslot 310 to transmits an ACK/NACK bit 341. Further, Applicants submit that Farley's subscriber stations do not monitor a transmission medium during time slots in which they are not transmitting to determine an overall acknowledgement state of the radio communication system.

For the reasons discussed above with respect to claim 1, Applicants submit that Shloss et al. fail to overcome the deficiencies of Farley et al. Accordingly, Applicants submit that the

combined teachings of Farley et al. and Shloss et al. do not render obvious the inventions of independent claims 5, 11 and 17, and request that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

In the Final Office Action, the Examiner rejects claims 21, 23 and 25 under 35 U.S.C. §103(a) as being unpatentable over Black et al. (U.S. Patent Application Publication No. 2004/0081124) in view of Zhao et al. ("New Go-Back-N- ARQ Protocols for Point-to-Multipoint Communications"). Applicants respectfully traverse the rejection for at least the following reasons.

Applicants' independent claim 21 recites a method of disseminating data in a wireless network including a transceiver/transmitter and at least two transceiver/receivers. The method includes transmitting from the transceiver/transmitter, the data to the at least tow transceiver/receivers, upon unsuccessfully receiving the data by at least one of the at least two transceiver/receivers, transmitting negative acknowledge data to indicate unsuccessful receipt of the data, retransmitting the data from the transceiver/transmitter, and replacing the data received by each of the at least two transceiver/receivers with the retransmitted data in each of the at least two transceiver/receivers.

Black et al. discloses a method of data transmission in which an access network retransmits data which is received in error by an access terminal. In the Final Office Action, the Examiner acknowledges that Black's method does not include replacing the data received by each of the access terminals in the network with the retransmitted data *in each of the access terminals*. However, the Examiner asserts that this feature is taught by Zhao et al. Applicants respectfully disagree.

Zhao et al. discloses a protocol in which a transmitter transmits m copies of every frame

in a packet sequence to each receiver in the broadcast communication system. See, e.g., Section 2.1 (Protocol 1), and Fig. 2 of Zhao et al., which illustrate 3 copies of each frame being transmitted. Applicants submit that Zhao et al. does not disclose or suggest that *each* of the receivers replace received data with the retransmitted data. Rather, Zhao et al. explicitly teaches that when a receiver receives a frame correctly, it discards all subsequent copies of the frame. See Fig. 2 of Zhao et al., in which 'D' represents a discarded copy, and the discussion starting at the last paragraph of page 1014 ("if the sequence number is smaller than the one the receiver expected, this frame is discarded. Because when the sequence number is smaller than the expected one, the frame is the one which has been correctly received by the receiver"). Further, when a receiver receives all copies of a frame with error, it transmits a NACK ('N' in Fig. 2). The transmitter retransmits the frame, and only the receiver (receiver 2) which transmitted the NACK replaces the frame having an error with a new copy of the retransmitted frame. Thus, in the example shown in Fig. 2, receiver 1 discards the retransmission of the frame received in error by receivers 2 (see the three 'D's above the second set of '3's corresponding to retransmission of 3 copies of frame 3 in the top right of Fig. 2).

Thus, Applicants respectfully submit that Zhao et al. does not teach the feature of replacing the data received by each of the at least two transceiver/receivers with the retransmitted data *in each of the at least two transceiver/receivers*, as the Examiner asserts.

For at least these reasons, Applicants submit that the combined teachings of Black et al. and Zhao et al. do not render obvious in the invention recited in Applicants' independent claim 21, and request that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

In the Final Office Action, the Examiner rejects claims 3, 7 and 8 under 35 U.S.C. §103(a) as being unpatentable over Hottinen et al. in view of Shloss et al. and You et al. (U.S.

Patent No. 5,570,355); rejects claim 4 under 35 U.S.C. §103(a) as being unpatentable over Hottinen et al. in view of Shloss et al. and Hass et al. (U.S. Patent Application Publication No. 2004/0025018); rejects claims 9 and 10 under 35 U.S.C. §103(a) as being unpatentable over Hottinen et al. in view of Shloss et al., You et al. and Hass et al.; rejects claims 15, 16, 20 and 22 under 35 U.S.C. §103(a) as being unpatentable over Farley et al. in view of Shloss et al. and Zhao et al.; and rejects claim 24 under 35 U.S.C. §103(a) as being unpatentable over Black et al. in view of Zhao et al. and Farley et al. Applicants submit that You et al. and Hass et al. fail to overcome the above-noted deficiencies of Hottinen et al., Shloss et al., Farley et al., Black et al. and Zhao et al., and request that the Examiner withdraw the rejection of claims 3, 4, 7, 9, 10, 15, 16, 20, 22 and 24, in view of their dependency from independent claims 1, 5, 11, 17 and 21.

In the Final Office Action, the Examiner objects to claim 26 for being dependent upon rejected base claim 21, but indicates that the claim would be allowable if rewritten in independent form. Applicants thank the Examiner for indicating that claim 26 includes allowable subject matter. However, Applicants submit that claim 26 is in condition for allowance in its present form, as Applicants submit that independent claim 21 is in condition for allowance for at the reasons discussed above. Accordingly, Applicants request that the Examiner withdraw the objection and allow claim 26.

Based on the above, it is respectfully submitted that this application is in condition for allowance, and a Notice of Allowance is respectfully requested.

SUMMARY AND CONCLUSION

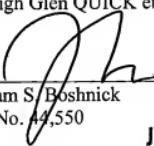
Reconsideration of the Final Office Action, and allowance of the present application and all of the claims therein are respectfully requested and believed to be appropriate. Applicants have made a sincere effort to place the present invention in condition for allowance and believe that they have done so.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should an extension of time be necessary to maintain the pendency of this application, including any extensions of time required to place the application in condition for allowance by an Examiner's Amendment, the Commissioner is hereby authorized to charge any additional fee to Deposit Account No. 19-0089.

Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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